

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Listing of the Claims

Claims 1-70 (cancelled)

Claim 71 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells wherein said capture moiety specifically binds the product, thereby labeling cells with said product, and wherein said product is labeled with a label moiety, and wherein said cells are not lysed during said method.

Claim 72 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising the steps of:

- a) coupling said cells to a capture moiety;
- b) culturing said cells under conditions wherein the product is secreted and bound to said capture moiety, thereby labeling cells with a product secreted by said cells; and
- c) labeling said product with a label moiety, and wherein said cells are not lysed during said method.

Claim 73 (previously presented): The method of claim 71 wherein said capture moiety is coupled to said cells through an anchoring moiety.

Claim 74 (previously presented): The method of claim 72 wherein said capture moiety is coupled to said cells through an anchoring moiety.

Claim 75 (cancelled)

Claim 76 (previously presented): The method of claim 71 wherein the label moiety is an antibody specific for the product.

Claim 77 (previously presented): The method of claim 71 wherein the label moiety is fluorochromated.

Appl. No. 08/416,920

Supplemental Amdt. dated July 6, 2004

PATENT

Claim 78 (previously presented): The method of claim 71 wherein the label moiety is magnetizable.

Claim 79 (previously presented): The method of claim 78 wherein the label moiety comprises colloidal magnetic particles with a typical diameter of about 5 to 200 nm.

Claim 80 (previously presented): The method of claim 71 wherein the capture moiety is an antibody or an antigen-binding fragment thereof.

Claim 81 (previously presented): The method of claim 80 wherein the antibody or antigen binding fragment thereof is bispecific.

Claim 82 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, wherein said product is labeled with a label moiety, wherein said cells are not lysed during said method, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lipid anchor.

Claim 83 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, wherein said product is labeled with a label moiety, wherein said cells are not lysed during said method, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 84 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

moiety specifically binds the product, thereby labeling cells with said product, wherein said product is labeled with a label moiety, wherein said cells are not lysed during said method, and wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.

Claim 85 (previously presented): The method of claim 81 wherein the bispecific antibody specifically binds to the cell.

Claim 86 (previously presented): The method of claim 71 wherein said product includes cytokines, antibodies, hormones, enzymes or proteins.

Claim 87 (previously presented): The method of claim 86 wherein said cytokine includes IFN γ , IL1, IL2, IL4, IL10, IL12, TGF β , TNF, GMCSF, and SCF.

Claim 88 (previously presented): The method of claim 84 wherein said linking moiety includes branched polymers.

Claim 89 (previously presented): The method of claim 88 wherein said branched polymers includes modified dextran molecules, polyethylene glycol, polypropylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

Claim 90 (previously presented): The method of claim 71 wherein said cell comprises a cell surface marker.

Claim 91 (previously presented): The method of claim 90 wherein said cell surface marker includes CD3, CD4, CD8, CD19, CD20, CD14, CD16, CD15, CD45, class I MHC and Class II MHC molecules, CD34, CD38, CD33, CD56 T cell receptor, Fc receptor, β 2 microglobulin or immunoglobulin.

Claim 92 (previously presented): The method of claim 90 wherein said cell surface marker comprises a cell adhesion molecule.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 93 (previously presented): A composition comprising cells labeled by the method of claim 71.

Claim 94 (previously presented): A composition comprising cells labeled by the method of claim 72.

Claim 95 (previously presented): A composition comprising cells positively identified based on a product secreted by said cells, wherein said cells are coupled to a capture moiety, wherein said product secreted by said cells is bound to said capture moiety, and wherein said product is labeled with a label moiety.

Claim 96 (previously presented): The composition of claim 95 wherein said capture moiety is coupled to said cells through an anchoring moiety.

Claim 97 (previously presented): The composition of claim 95 wherein said capture moiety is an antibody or antigen-binding fragment thereof.

Claim 98 (previously presented): The composition of claim 97 wherein said antibody is bispecific.

Claim 99 (withdrawn): The composition of claim 96 wherein said anchoring moiety is a lipid anchor.

Claim 100 (previously presented): The composition of claim 96 wherein said anchoring moiety is an antibody or an antigen-binding fragment thereof.

Claim 101 (previously presented): The composition according to claim 95 wherein the label moiety is an antibody specific for the product.

Claim 102 (previously presented): The composition according to claim 95 wherein the label moiety is fluorochromated.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 103 (withdrawn): The composition according to claim 95 wherein the label moiety is magnetizable.

Claim 104 (previously presented): The composition of claim 95 wherein said product includes cytokines, antibodies, hormones, enzymes or proteins.

Claim 105 (previously presented): The composition of claim 104 wherein said cytokine includes IFN γ , IL1, IL2, IL4, IL10, IL12, TGF β , TNF, GMCSF, and SCF.

Claim 106 (previously presented): The composition of claim 95 wherein said cell comprises a cell surface marker.

Claim 107 (previously presented): The composition of claim 106 wherein said cell surface marker includes CD3, CD4, CD8, CD19, CD20, CD14, CD16, CD15, CD45, class I MHC and Class II MHC molecules, CD34, CD38, CD33, CD56 T cell receptor, Fc receptor, β 2 microglobulin or immunoglobulin.

Claim 108 (withdrawn): The composition of claim 106 wherein said cell surface marker comprises a cell adhesion molecule.

Claim 109 (previously presented): The composition of claim 95 wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.

Claim 110 (previously presented): The composition of claim 109 wherein said linking moiety includes branched polymers.

Claim 111 (previously presented): The composition of claim 110 wherein said branched polymers includes modified dextran molecules, polyethylene glycol, polypropylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

Claim 112-113 (cancelled)

Appl. No. 08/416,920
Supplemental Amtdt. dated July 6, 2004

PATENT

Claim 114 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, and wherein said product is labeled with a label moiety, wherein said cells are not lysed during said method further comprising the step of positively separating said cells labeled with said product secreted by said cells, and wherein said product is labeled with a label moiety.

Claim 115 (previously presented): A method to positively separate cells based on a product secreted by the cells, comprising the steps of:

- a) culturing cells coupled to a capture moiety under conditions wherein a product is secreted, wherein said product secreted by said cells specifically binds to said capture moiety, thereby producing cells labeled with said product wherein said cells are not lysed by said method, and wherein said product is labeled with a label moiety; and
- b) positively separating said cells labeled with said product.

Claim 116 (previously presented): The method of claim 114 wherein said capture moiety is coupled to said cells through an anchoring moiety.

Claim 117 (previously presented): The method of claim 115 wherein said capture moiety is coupled to said cells through an anchoring moiety.

Claim 118 (cancelled)

Claim 119 (previously presented): The method of claim 114 wherein the label moiety is an antibody specific for the product.

Claim 120 (previously presented): The method of claim 114 wherein the label moiety is fluorochromated.

Claim 121 (previously presented): The method of claim 114 wherein the label moiety is magnetizable.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 122 (previously presented): The method of claim 121 wherein the label moiety comprises colloidal magnetic particles with a typical diameter of about 5 to 200 nm.

Claim 123 (previously presented): The method of claim 114 wherein the capture moiety is an antibody or an antigen-binding fragment thereof.

Claim 124 (previously presented): The method of claim 123 wherein the antibody or antigen binding fragment thereof is bispecific.

Claim 125 (previously presented): The method of claim 116 wherein the anchoring moiety is a lipid anchor.

Claim 126 (previously presented): The method of claim 116 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 127 (previously presented): The method of claim 114 wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.

Claim 128 (previously presented): The method of claim 124 wherein the bispecific antibody specifically binds to the cell.

Claim 129 (previously presented): The method of claim 114 wherein said product includes cytokines, antibodies, hormones, enzymes or proteins.

Claim 130 (previously presented): The method of claim 129 wherein said product is a cytokine.

Claim 131 (previously presented): The method of claim 129 wherein said product is an antibody.

Claim 132 (previously presented): The method of claim 130 wherein said cytokine includes IFN γ , IL1, IL2, IL4, IL10, IL12, TGF β , TNF, GMCSF, or SCF.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 133 (previously presented): The method of claim 132 wherein said cytokine is IFN γ .

Claim 134 (previously presented): The method of claim 132 wherein said cytokine is IL2.

Claim 135 (previously presented): The method of claim 132 wherein said cytokine is IL4.

Claim 136 (previously presented): The method of claim 132 wherein said cytokine is IL10.

Claim 137 (previously presented): The method of claim 132 wherein said cytokine is IL12.

Claim 138 (previously presented): The method of claim 132 wherein said cytokine is TNF.

Claim 139 (previously presented): The method of claim 127 wherein said linking moiety includes branched polymers.

Claim 140 (previously presented): The method of claim 139 wherein said branched polymers includes modified dextran molecules, polyethylene glycol, polypropylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

Claim 141 (previously presented): The method of claim 114 wherein said cell comprises a cell surface marker.

Claim 142 (previously presented): The method of claim 141 wherein said cell surface marker includes CD3, CD4, CD8, CD19, CD20, CD14, CD16, CD15, CD45, class I MHC and Class II MHC molecules, CD34, CD38, CD33, CD56 T cell receptor, Fc receptor, β 2 microglobulin or immunoglobulin.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 143 (previously presented): The method of claim 141 wherein said surface marker is CD45.

Claim 144 (previously presented): The method of claim 141 wherein said cell surface marker comprises a cell adhesion molecule.

Claims 145-146 (cancelled)

Claims 147 (previously presented): A composition comprising cells separated by the method of claim 114.

Claims 148 (previously presented): A composition comprising cells separated by the method of claim 115.

Claim 149 (previously presented): A composition comprising cells positively separated based on a product secreted by the cells, wherein said cells are coupled to a capture moiety and said product secreted by said cells is specifically bound to said capture moiety and wherein said product is labeled with a label moiety.

Claim 150 (previously presented): A kit for the positive identification of cells that secrete a product, comprising:

- a) at least one of an anchoring moiety and a capture moiety;
- b) a label moiety for detecting captured product; and
- c) instructions for use of the reagents, all packaged in appropriate containers.

Claim 151 (previously presented): The kit of claim 150 further comprising a physiologically acceptable buffer.

Claim 152 (previously presented): The kit of claim 150 wherein said capture moiety is a bispecific antibody.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 153 (previously presented): The kit of claim 152 wherein said bispecific antibody is specific for a cytokine.

Claim 154 (previously presented): The kit of claim 153 wherein said cytokine is IFN γ .

Claim 155 (withdrawn): The kit of claim 153 wherein said cytokine is IL2.

Claim 156 (withdrawn): The kit of claim 153 wherein said cytokine is IL4.

Claim 157 (withdrawn): The kit of claim 153 wherein said cytokine is IL10.

Claim 158 (withdrawn): The kit of claim 153 wherein said cytokine is IL12.

Claim 159 (withdrawn): The kit of claim 153 wherein said cytokine is TNF.

Claim 160 (previously presented): The kit of claim 153 wherein said bispecific antibody binds a cell surface marker.

Claim 161 (previously presented): The kit of claim 153 wherein said cell surface marker is CD45.

Claim 162 (previously presented): A kit for the positive identification of cells that secrete a product, comprising:

- a) a product capture system comprising an anchoring moiety and a capture moiety;
- b) a label moiety for detecting captured product; and
- c) instructions for use of the reagents, all packaged in appropriate containers.

Claim 163 (previously presented): The kit of claim 162 wherein said anchor moiety is prepared for coupling to the capture moiety.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 164 (previously presented): The kit of claim 162 wherein said capture moiety is prepared for coupling to the anchoring moiety.

Claim 165 (previously presented): The kit of claim 162 wherein said anchoring moiety is coupled to said capture moiety.

Claim 166 (previously presented): The kit of claim 163, 164 or 165 wherein said coupling is via the biotin/avidin system.

Claim 167 (previously presented): A method to determine the proportion of cells labeled with a product in a cell population, wherein the cells labeled with the product secrete said product, comprising the steps of:

- a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety;
- b) labeling the cells of step a) with at least one additional label moiety that does not label the product bound to said capture moiety; and
- c) comparing the proportion of cells comprising secreted product bound to said capture moiety to the proportion of cells labeled with said label moiety, thereby determining the proportion of cells in the population that secretes the product; and wherein said cells are not lysed by said method.

Claim 168 (previously presented): A method to determine the amount of cells labeled with a product in a population of cells, wherein the cells are labeled with the product secrete said product, comprising the steps of:

- a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety thereby producing cells labeled with said product; and
- b) determining the amount of cells labeled with said product; and wherein said cells are not lysed by said method.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 169 (previously presented): The method of claim 168 further comprising the step of determining the amount and type of product produced per cell labeled with said product.

Claim 170 (previously presented): The method of claim 168 further comprising the steps of:

- c) labeling the cells of claim 168 with a second capture moiety which specifically binds a second protein;
- d) culturing said cells under conditions wherein a second product is secreted and bound to said second capture moiety thereby producing cells labeled with said second product; and
- e) determining the amount of cells labeled with each product.

Claim 171 (previously presented): The method of claim 170 further comprising the step of determining the amount and type of each product produced per cell labeled with product.

Claim 172 (previously presented): A method to positively separate cells based on a product secreted by the cells comprising separating cells labeled with the product, wherein said cells have been coupled to a capture moiety that specifically binds a product secreted by said cells and wherein said cells have been cultured under conditions wherein the product is secreted and bound to said capture moiety, thereby producing cells labeled with said product, wherein said cells are not lysed by said method and wherein said product is labeled with a label moiety.

Claim 173 (previously presented): A method to positively separate cells based on a product secreted by the cells comprising separating cells labeled with the product, wherein said cells have been coupled to a capture moiety that specifically binds a product secreted by said cells and wherein said cells have been cultured under conditions wherein the product is secreted and bound to said capture moiety, thereby producing cells labeled with said product, wherein

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

said cells are not lysed by said method, wherein said product is labeled with a label moiety, and wherein said capture moiety is coupled to said cells through an anchoring moiety.

Claim 174 (previously presented): The method of claim 172 wherein the label moiety is an antibody specific for the product.

Claim 175 (previously presented): The method of claim 172 wherein the label moiety is fluorochromated.

Claim 176 (previously presented): The method of claim 172 wherein the label moiety is magnetizable.

Claim 177 (previously presented): The method of claim 176 wherein the label moiety comprises colloidal magnetic particles with a typical diameter of about 5 to 200 nm.

Claim 178 (previously presented): The method of claim 172 wherein the capture moiety is an antibody or an antigen-binding fragment thereof.

Claim 179 (previously presented): The method of claim 178 wherein said antibody is against a cell surface antigen.

Claim 180 (previously presented): The method of claim 173 wherein the anchoring moiety is a lipid anchor.

Claim 181 (previously presented): The method of claim 173 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 182 (previously presented): A method to positively separate cells based on a product secreted by the cells comprising separating cells labeled with the product, wherein said cells have been coupled to a capture moiety that specifically binds a product secreted by said cells and wherein said cells have been cultured under conditions wherein the product is secreted and bound to said capture moiety, thereby producing cells labeled with said product, wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, and

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.

Claim 183 (previously presented): The method of claim 172 wherein the product includes cytokines, antibodies, hormones or proteins.

Claim 184 (previously presented): The method of claim 172 wherein said product is an antibody.

Claim 185 (previously presented): The method of claim 172 wherein said product is a cytokine.

Claim 186 (previously presented): The method of claim 185 wherein said cytokine is interleukin.

Claim 187 (previously presented): The method of claim 185 wherein said cytokine is IFN γ .

Claim 188 (previously presented): The method of claim 183 wherein said product is a growth hormone.

Claim 189 (previously presented): A method to determine the amount of product produced per cell in a population of cells, comprising the steps of:

- a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety thereby producing cells labeled with said product; and
- b) determining the amount of product produced per cell labeled with said product.

Claim 190 (previously presented): A method to label cells with a product secreted by the cells, comprising culturing said cells under conditions wherein the product is

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, and wherein said product is optionally labeled with a label moiety, and wherein said cells are not lysed during said method.

Claim 191 (previously presented): The method of claim 190 wherein said capture moiety is coupled to said cells through an anchoring moiety.

Claim 192 (previously presented): The method of claim 190 wherein the label moiety is an antibody specific for the product.

Claim 193 (previously presented): The method of claim 190 wherein the label moiety is fluorochromated.

Claim 194 (previously presented): The method of claim 190 wherein the label moiety is magnetizable.

Claim 195 (previously presented): The method of claim 194 wherein the label moiety comprises colloidal magnetic particles with a typical diameter of about 5 to 200 nm.

Claim 196 (previously presented): The method of claim 190 wherein the capture moiety is an antibody or an antigen-binding fragment thereof.

Claim 197 (previously presented): The method of claim 196 wherein the antibody or antigen binding fragment thereof is bispecific.

Claim 198 (previously presented): A method to label cells with a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, wherein said product is optionally labeled with a label moiety, wherein said cells are not lysed during said method, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lipid anchor.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 199 (previously presented): A method to label cells with a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, wherein said product is optionally labeled with a label moiety, wherein said cells are not lysed during said method, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 200 (previously presented): A method to label cells with a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, wherein said product is optionally labeled with a label moiety, wherein said cells are not lysed during said method, and wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.

Claim 201 (previously presented): The method of claim 197 wherein the bispecific antibody specifically binds to the cell.

Claim 202 (previously presented): The method of claim 190 wherein said product includes cytokines, antibodies, hormones, enzymes or proteins.

Claim 203 (previously presented): The method of claim 202 wherein said cytokine includes IFN γ , IL1, IL2, IL4, IL10, IL12, TGF β , TNF, GMCSF, and SCF.

Claim 204 (previously presented): The method of claim 200 wherein said linking moiety includes branched polymers.

Claim 205 (previously presented): The method of claim 204 wherein said branched polymers includes modified dextran molecules, polyethylene glycol, polypropylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 206 (previously presented): The method of claim 190 wherein said cell comprises a cell surface marker.

Claim 207 (previously presented): The method of claim 206 wherein said cell surface marker includes CD3, CD4, CD8, CD19, CD20, CD14, CD16, CD15, CD45, class I MHC and Class II MHC molecules, CD34, CD38, CD33, CD56 T cell receptor, Fc receptor, β 2 microglobulin or immunoglobulin.

Claim 208 (previously presented): The method of claim 206 wherein said cell surface marker comprises a cell adhesion molecule.

Claim 209 (previously presented): A composition comprising cells labeled by the method of claim 190.

Claim 210 (previously presented): A composition comprising cells labeled with a product secreted by said cells, wherein said cells are coupled to a capture moiety, wherein said product secreted by said cells is bound to said capture moiety, and wherein optionally, said product is labeled with a label moiety.

Claim 211 (previously presented): The composition of claim 210 wherein said capture moiety is coupled to said cells through an anchoring moiety.

Claim 212 (previously presented): The composition of claim 210 wherein said capture moiety is an antibody or antigen-binding fragment thereof.

Claim 213 (previously presented): The composition of claim 212 wherein said antibody is bispecific.

Claim 214 (withdrawn): The composition of claim 211 wherein said anchoring moiety is a lipid anchor.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 215 (previously presented): The composition of claim 211 wherein said anchoring moiety is an antibody or an antigen-binding fragment thereof.

Claim 216 (previously presented): The composition according to claim 210 wherein the label moiety is an antibody specific for the product.

Claim 217 (previously presented): The composition according to claim 210 wherein the label moiety is fluorochromated.

Claim 218 (withdrawn): The composition according to claim 210 wherein the label moiety is magnetizable.

Claim 219 (previously presented): The composition of claim 210 wherein said product includes cytokines, antibodies, hormones, enzymes or proteins.

Claim 220 (previously presented): The composition of claim 219 wherein said cytokine includes IFN γ , IL1, IL2, IL4, IL10, IL12, TGF β , TNF, GMCSF, and SCF.

Claim 221 (previously presented): The composition of claim 210 wherein said cell comprises a cell surface marker.

Claim 222 (previously presented): The composition of claim 221 wherein said cell surface marker includes CD3, CD4, CD8, CD19, CD20, CD14, CD16, CD15, CD45, class I MHC and Class II MHC molecules, CD34, CD38, CD33, CD56 T cell receptor, Fc receptor, β 2 microglobulin or immunoglobulin.

Claim 223 (withdrawn): The composition of claim 221 wherein said cell surface marker comprises a cell adhesion molecule.

Claim 224 (previously presented): The composition of claim 210 wherein said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 225 (previously presented): The composition of claim 224 wherein said linking moiety includes branched polymers.

Claim 226 (previously presented): The composition of claim 225 wherein said branched polymers includes modified dextran molecules, polyethylene glycol, polypropylene glycol, polyvinyl alcohol or polyvinylpyrrolidone.

Claim 227 (previously presented): A kit for the separation of cells that secrete a product, comprising:

- a) a product capture system comprising an anchoring moiety and a capture moiety;
- b) a label moiety for labeling captured product, and
- c) instructions for use of the reagents, all packaged in appropriate containers.

Claim 228 (previously presented): The kit of claim 227 wherein said anchor moiety is prepared for coupling to the capture moiety.

Claim 229 (previously presented): The kit of claim 227 wherein said capture moiety is prepared for coupling to the anchoring moiety.

Claim 230 (previously presented): The kit of claim 227 wherein said anchoring moiety is coupled to said capture moiety.

Claim 231 (previously presented): The kit of claim 228, 229 or 230 wherein said coupling is via the biotin/avidin system.

Claim 232 (previously presented): The kit of claim 227, wherein said product capture system is a bispecific antibody.

Claim 233 (withdrawn): The kit of claim 227, wherein said label moiety for labeling captured product is magnetizable.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 234 (previously presented): The kit of claim 227, wherein said label moiety for labeling captured product is flurochromated.

Claim 235 (previously presented): A kit for labeling cells that secrete a product, comprising:

- a) a product capture system comprising an anchoring moiety and a capture moiety;
- b) a label moiety for labeling captured product; and
- c) instructions for use of the reagents, all packaged in appropriate containers.

Claim 236 (previously presented): The kit of claim 235 wherein said anchor moiety is prepared for coupling to the capture moiety.

Claim 237 (previously presented): The kit of claim 235 wherein said capture moiety is prepared for coupling to the anchoring moiety.

Claim 238 (previously presented): The kit of claim 235 wherein said anchoring moiety is coupled to said capture moiety.

Claim 239 (previously presented): The kit of claim 236, 237 or 238 wherein said coupling is via the biotin/avidin system.

Claim 240 (previously presented): The kit of claim 235, wherein said product capture system is a bispecific antibody.

Claim 241 (withdrawn): The kit of claim 235, wherein said label moiety for labeling captured product is magnetizable.

Claim 242 (previously presented): The kit of claim 235, wherein said label moiety for labeling captured product is flurochromated.

Appl. No. 08/416,920
Supplemental Amdt, dated July 6, 2004

PATENT

Claim 243 (previously presented): The kit of claim 162, wherein said label moiety for detecting captured product is flurochromated.

Claim 244 (previously presented): The method of claim 170 further comprising the steps of, labeling the cells of claim 170 with at least one additional capture moiety which specifically binds an additional product; culturing said cells under conditions wherein said additional product is secreted and bound to said additional capture moiety thereby producing cells labeled with said additional product; and determining the amount of cells labeled with each product.

Claim 245 (previously presented): A method to determine the proportion of cells, in a cell population, that are labeled with a product, wherein the cells labeled with the product secrete the product, said method comprising:

a) culturing a cell population, wherein cells of said cell population are coupled to a capture moiety that specifically binds a product secreted by at least some cells in said cell population, under conditions wherein the product is secreted and bound to said capture moiety, thereby producing cells labeled with said product; and

b) determining the proportion of cells in said cell population that are labeled with said product; wherein said cells are not lysed by said method.

Claim 246 (previously presented): The method of claim 245, further comprising the steps of:

c) labeling the cells of said cell population with a second capture moiety that specifically binds a second product;

d) culturing said cell population under conditions wherein a second product is secreted and bound to said second capture moiety thereby producing cells labeled with said second product; and

e) determining the proportion of cells labeled with each product.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 247 (previously presented): The method of claim 246 further comprising the step of determining the amount and type of each product produced per cell labeled with product.

Claim 248 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells wherein said capture moiety specifically binds the product, thereby labeling cells with said product, wherein said product is labeled with a label moiety, wherein said cells are not lysed during said method, and wherein

a) said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or

b) said capture moiety is coupled to said cells through an anchoring moiety, and

i) the anchoring moiety is a lipid anchor or

ii) the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 249 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells wherein said capture moiety specifically binds the product, thereby labeling cells with said product, wherein said product is labeled with a label moiety, wherein said cells are not lysed during said method, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin.

Claim 250 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells wherein said capture

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

moiety specifically binds the product, thereby labeling cells with said product, wherein said product is labeled with a label moiety, wherein said cells are not lysed during said method, wherein said capture moiety is an antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody to the cell.

Claim 251 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising the steps of:

- a) coupling said cells to a capture moiety;
- b) culturing said cells under conditions wherein the product is secreted and bound to said capture moiety, thereby labeling cells with a product secreted by said cells; and
- c) labeling said product with a label moiety, wherein said cells are not lysed during said method,

wherein

i) said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or

ii) said capture moiety is coupled to said cells through an anchoring moiety, and

A) the anchoring moiety is a lipid anchor or

B) the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 252 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising the steps of:

- a) coupling said cells to a capture moiety;
- b) culturing said cells under conditions wherein the product is secreted and bound to said capture moiety, thereby labeling cells with a product secreted by said cells; and

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

B) the anchoring moiety is an antibody, or an antigen-binding fragment thereof; and

b) positively separating said cells labeled with said product.

Claim 255 (previously presented): A method to positively separate cells based on a product secreted by the cells, comprising the steps of:

a) culturing cells coupled to a capture moiety under conditions wherein a product is secreted, wherein said product secreted by said cells specifically binds to said capture moiety, thereby producing cells labeled with said product wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin; and

b) positively separating said cells labeled with said product.

Claim 256 (previously presented): A method to positively separate cells based on a product secreted by the cells, comprising the steps of:

a) culturing cells coupled to a capture moiety under conditions wherein a product is secreted, wherein said product secreted by said cells specifically binds to said capture moiety, thereby producing cells labeled with said product wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, wherein said capture moiety is antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell; and

b) positively separating said cells labeled with said product.

Claim 257 (previously presented): A method to determine the proportion of cells labeled with a product in a cell population, wherein the cells labeled with the product secrete said product, comprising the steps of:

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

c) labeling said product with a label moiety, wherein said cells are not lysed during said method,

wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin.

Claim 253 (previously presented): A method to positively identify cells based on a product secreted by the cells, comprising the steps of:

a) coupling said cells to a capture moiety;

b) culturing said cells under conditions wherein the product is secreted and bound to said capture moiety, thereby labeling cells with a product secreted by said cells; and

c) labeling said product with a label moiety, wherein said cells are not lysed during said method,

wherein said capture moiety is antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Claim 254 (previously presented): A method to positively separate cells based on a product secreted by the cells, comprising the steps of:

a) culturing cells coupled to a capture moiety under conditions wherein a product is secreted, wherein said product secreted by said cells specifically binds to said capture moiety, thereby producing cells labeled with said product wherein said cells are not lysed by said method, and wherein said product is labeled with a label moiety and wherein

i) said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or

ii) said capture moiety is coupled to said cells through an anchoring moiety, and

A) the anchoring moiety is a lipid anchor or

Appl. No. 08/416,920
Supplemental Arndt. dated July 6, 2004

PATENT

conditions wherein the product is secreted and bound to said capture moiety, wherein said product is labeled with a label moiety, and wherein

i) said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or

ii) said capture moiety is coupled to said cells through an anchoring moiety, and

A) the anchoring moiety is a lipid anchor or

B) the anchoring moiety is an antibody, or an antigen-binding fragment thereof;

b) labeling the cells of step a) with at least one additional label moiety that does not label the product bound to said capture moiety; and

c) comparing the proportion of cells comprising secreted product bound to said capture moiety to the proportion of cells labeled with said label moiety, thereby determining the proportion of cells in the population that secretes the product; and wherein said cells are not lysed by said method.

Claim 258 (previously presented): A method to determine the proportion of cells labeled with a product in a cell population, wherein the cells labeled with the product secrete said product, comprising the steps of:

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin;

b) labeling the cells of step a) with at least one additional label moiety that does not label the product bound to said capture moiety; and

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

c) comparing the proportion of cells comprising secreted product bound to said capture moiety to the proportion of cells labeled with said label moiety, thereby determining the proportion of cells in the population that secretes the product; and wherein said cells are not lysed by said method.

Claim 259 (previously presented): A method to determine the proportion of cells labeled with a product in a cell population, wherein the cells labeled with the product secrete said product, comprising the steps of:

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety, wherein said capture moiety wherein said capture moiety is antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell;

b) labeling the cells of step a) with at least one additional label moiety that does not label the product bound to said capture moiety; and

c) comparing the proportion of cells comprising secreted product bound to said capture moiety to the proportion of cells labeled with said label moiety, thereby determining the proportion of cells in the population that secretes the product; and wherein said cells are not lysed by said method.

Claim 260 (previously presented): A method to determine the amount of cells labeled with a product in a population of cells, wherein the cells are labeled with the product secrete said product, comprising the steps of:

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety thereby producing cells labeled with said product, wherein

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

i) said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or

ii) said capture moiety is coupled to said cells through an anchoring moiety, and

A) the anchoring moiety is a lipid anchor or

B) the anchoring moiety is an antibody, or an antigen-binding fragment thereof; and

b) determining the amount of cells labeled with said product; and wherein said cells are not lysed by said method.

Claim 261 (previously presented): A method to determine the amount of cells labeled with a product in a population of cells, wherein the cells are labeled with the product secrete said product, comprising the steps of:

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety thereby producing cells labeled with said product, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin; and

b) determining the amount of cells labeled with said product; and wherein said cells are not lysed by said method.

Claim 262 (previously presented): A method to determine the amount of cells labeled with a product in a population of cells, wherein the cells are labeled with the product secrete said product, comprising the steps of:

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety thereby producing cells labeled with said product, wherein said capture moiety is antibody or antigen binding

Appl. No. 08/416,920
Supplemental Amtd. dated July 6, 2004

PATENT

fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell; and

- b) determining the amount of cells labeled with said product; and
wherein said cells are not lysed by said method.

Claim 263 (previously presented): A method to positively separate cells based on a product secreted by the cells comprising separating cells labeled with the product, wherein said cells have been coupled to a capture moiety that specifically binds a product secreted by said cells, wherein said cells have been cultured under conditions wherein the product is secreted and bound to said capture moiety, thereby producing cells labeled with said product, wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, and wherein

- i) said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or

- ii) said capture moiety is coupled to said cells through an anchoring moiety, and

- A) the anchoring moiety is a lipid anchor or

- B) the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 264 (previously presented): A method to positively separate cells based on a product secreted by the cells comprising separating cells labeled with the product, wherein said cells have been coupled to a capture moiety that specifically binds a product secreted by said cells and wherein said cells have been cultured under conditions wherein the product is secreted and bound to said capture moiety, thereby producing cells labeled with said product, wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 265 (previously presented): A method to positively separate cells based on a product secreted by the cells comprising separating cells labeled with the product, wherein said cells have been coupled to a capture moiety that specifically binds a product secreted by said cells and wherein said cells have been cultured under conditions wherein the product is secreted and bound to said capture moiety, thereby producing cells labeled with said product, wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, wherein said capture moiety is an antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Claim 266 (previously presented): A method to determine the amount of product produced per cell in a population of cells, comprising the steps of:

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety thereby producing cells labeled with said product, wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, and wherein

i) said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or

ii) said capture moiety is coupled to said cells through an anchoring moiety, and

A) the anchoring moiety is a lipid anchor or

B) the anchoring moiety is an antibody, or an antigen-binding fragment thereof; and

b) determining the amount of product produced per cell labeled with said product.

Claim 267 (previously presented): A method to determine the amount of product produced per cell in a population of cells, comprising the steps of:

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety thereby producing cells labeled with said product, wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin; and

b) determining the amount of product produced per cell labeled with said product.

Claim 268 (previously presented): A method to determine the amount of product produced per cell in a population of cells, comprising the steps of:

a) culturing a cell population, wherein said cells of said population are coupled to a capture moiety which specifically binds a product secreted by said cells, under conditions wherein the product is secreted and bound to said capture moiety thereby producing cells labeled with said product, wherein said capture moiety is an antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell; and

b) determining the amount of product produced per cell labeled with said product.

Claim 269 (previously presented): A method to label cells with a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, and wherein said product is optionally labeled with a label moiety, wherein said cells are not lysed during said method, wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, and wherein

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

i) said capture moiety is coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety, or

ii) said capture moiety is coupled to said cells through an anchoring moiety, and

A) the anchoring moiety is a lipid anchor or

B) the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 270 (previously presented): A method to label cells with a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, and wherein said product is optionally labeled with a label moiety, wherein said cells are not lysed during said method, and wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin.

Claim 271 (previously presented): A method to label cells with a product secreted by the cells, comprising culturing said cells under conditions wherein the product is secreted and bound to a capture moiety coupled to said cells, wherein said capture moiety specifically binds the product, thereby labeling cells with said product, and wherein said product is optionally labeled with a label moiety, wherein said cells are not lysed during said method, wherein said cells are not lysed by said method, wherein said product is labeled with a label moiety, and wherein said capture moiety is an antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Claim 272 (previously presented): The method of claim 73 wherein the anchoring moiety is a lipid anchor.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 273 (previously presented): The method of claim 73 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 274 (previously presented): The method of claim 74 wherein the anchoring moiety is a lipid anchor.

Claim 275 (previously presented): The method of claim 74 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 276 (previously presented): The method of claim 117 wherein the anchoring moiety is a lipid anchor.

Claim 277 (previously presented): The method of claim 117 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 278 (previously presented): The method of claim 173 wherein the anchoring moiety is a lipid anchor.

Claim 279 (previously presented): The method of claim 173 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 280 (previously presented): The method of claim 191 wherein the anchoring moiety is a lipid anchor.

Claim 281 (previously presented): The method of claim 191 wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 282 (previously presented): The method of claim 167 wherein the capture moiety is an antibody or antigen binding fragment thereof.

Claim 283 (previously presented): The method of claim 282 wherein the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 284 (previously presented): The method of claim 167 wherein said capture moiety is coupled to said cells through an anchoring moiety, wherein said anchoring moiety is a lipid anchor.

Claim 285 (previously presented): The method of claim 167 wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 286 (previously presented): The method of claim 168 wherein the capture moiety is an antibody or antigen binding fragment thereof.

Claim 287 (previously presented): The method of claim 286 wherein the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Claim 288 (previously presented): The method of claim 168 wherein said capture moiety is coupled to said cells through an anchoring moiety, and said anchoring moiety is a lipid anchor.

Claim 289 (previously presented): The method of claim 168 wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein said anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 290 (previously presented): The method of claim 179 wherein the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Claim 291 (previously presented): The method of claim 189 wherein the capture moiety is an antibody or antigen-binding fragment thereof.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 292 (previously presented): The method of claim 291 wherein the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Claim 293 (previously presented): The method of claim 189 wherein said capture moiety is coupled to said cells through an anchoring moiety, and the anchoring moiety is a lipid anchor.

Claim 294 (previously presented): The method of claim 189 wherein said capture moiety is coupled to said cells through an anchoring moiety, and the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 295 (previously presented): The method of claim 71 wherein the label moiety is an antibody specific for the product.

Claim 296 (previously presented): The method of claim 295 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 297 (previously presented): The method of claim 295 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 298 (previously presented): The method of claim 72 wherein the label moiety is an antibody specific for the product.

Claim 299 (previously presented): The method of claim 298 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 300 (previously presented): The method of claim 298 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 301 (previously presented): The method of claim 115 wherein the label moiety is an antibody specific for the product.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 302 (previously presented): The method of claim 301 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 303 (previously presented): The method of claim 301 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 304 (previously presented): The method of claim 167 wherein the label moiety is an antibody specific for the product.

Claim 305 (previously presented): The method of claim 304 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 306 (previously presented): The method of claim 304 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 307 (previously presented): The method of claim 168 wherein the label moiety is an antibody specific for the product.

Claim 308 (previously presented): The method of claim 307 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 309 (previously presented): The method of claim 307 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 310 (previously presented): The method of claim 172 wherein the label moiety is an antibody specific for the product.

Claim 311 (previously presented): The method of claim 310 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 312 (previously presented): The method of claim 310 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 313 (previously presented): The method of claim 189 wherein the label moiety is an antibody specific for the product.

Claim 314 (previously presented): The method of claim 313 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 315 (previously presented): The method of claim 313 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 316 (previously presented): The method of claim 190 wherein the label moiety is an antibody specific for the product.

Claim 317 (previously presented): The method of claim 316 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 318 (previously presented): The method of claim 316 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 319 (previously presented): The method of claim 248 wherein the label moiety is an antibody specific for the product.

Claim 320 (previously presented): The method of claim 319 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 321 (previously presented): The method of claim 319 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 322 (previously presented): The method of claim 249 wherein the label moiety is an antibody specific for the product.

Claim 323 (previously presented): The method of claim 322 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 324 (previously presented): The method of claim 322 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 325 (previously presented): The method of claim 250 wherein the label moiety is an antibody specific for the product.

Claim 326 (previously presented): The method of claim 325 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 327 (previously presented): The method of claim 325 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 328 (previously presented): The method of claim 251 wherein the label moiety is an antibody specific for the product.

Claim 329 (previously presented): The method of claim 328 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 330 (previously presented): The method of claim 328 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 331 (previously presented): The method of claim 252 wherein the label moiety is an antibody specific for the product.

Claim 332 (previously presented): The method of claim 331 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 333 (previously presented): The method of claim 331 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 334 (previously presented): The kit of claim 151 wherein the physiologically acceptable buffer is cell culture media.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 335 (previously presented): The method of claim 248 wherein the product is a cytokine.

Claim 336 (previously presented): The method of claim 249 wherein the product is a cytokine.

Claim 337 (previously presented): The method of claim 253 wherein the label moiety is an antibody specific for the product.

Claim 338 (previously presented): The method of claim 337 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 339 (previously presented): The method of claim 337 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 340 (previously presented): The method of claim 254 wherein the label moiety is an antibody specific for the product.

Claim 341 (previously presented): The method of claim 340 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 342 (previously presented): The method of claim 340 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 343 (previously presented): The method of claim 255 wherein the label moiety is an antibody specific for the product.

Claim 344 (previously presented): The method of claim 343 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 345 (previously presented): The method of claim 343 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 346 (previously presented): The method of claim 256 wherein the label moiety is an antibody specific for the product.

Claim 347 (previously presented): The method of claim 346 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 348 (previously presented): The method of claim 346 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 349 (previously presented): The method of claim 257 wherein the label moiety is an antibody specific for the product.

Claim 350 (previously presented): The method of claim 349 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 351 (previously presented): The method of claim 349 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 352 (previously presented): The method of claim 258 wherein the label moiety is an antibody specific for the product.

Claim 353 (previously presented): The method of claim 352 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 354 (previously presented): The method of claim 352 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 355 (previously presented): The method of claim 259 wherein the label moiety is an antibody specific for the product.

Claim 356 (previously presented): The method of claim 355 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 357 (previously presented): The method of claim 355 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 358 (previously presented): The method of claim 260 wherein the label moiety is an antibody specific for the product.

Claim 359 (previously presented): The method of claim 358 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 360 (previously presented): The method of claim 358 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 361 (previously presented): The method of claim 261 wherein the label moiety is an antibody specific for the product.

Claim 362 (previously presented): The method of claim 361 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 363 (previously presented): The method of claim 361 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 364 (previously presented): The method of claim 262 wherein the label moiety is an antibody specific for the product.

Claim 365 (previously presented): The method of claim 364 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 366 (previously presented): The method of claim 364 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 367 (previously presented): The method of claim 263 wherein the label moiety is an antibody specific for the product.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 368 (previously presented): The method of claim 367 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 369 (previously presented): The method of claim 367 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 370 (previously presented): The method of claim 264 wherein the label moiety is an antibody specific for the product.

Claim 371 (previously presented): The method of claim 370 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 372 (previously presented): The method of claim 370 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 373 (previously presented): The method of claim 265 wherein the label moiety is an antibody specific for the product.

Claim 374 (previously presented): The method of claim 373 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 375 (previously presented): The method of claim 373 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 376 (previously presented): The method of claim 266 wherein the label moiety is an antibody specific for the product.

Claim 377 (previously presented): The method of claim 376 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 378 (previously presented): The method of claim 376 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 379 (previously presented): The method of claim 267 wherein the label moiety is an antibody specific for the product.

Claim 380 (previously presented): The method of claim 379 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 381 (previously presented): The method of claim 379 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 382 (previously presented): The method of claim 268 wherein the label moiety is an antibody specific for the product.

Claim 383 (previously presented): The method of claim 382 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 384 (previously presented): The method of claim 382 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 385 (previously presented): The method of claim 250 wherein the product is a cytokine.

Claim 386 (previously presented): The method of claim 319 wherein the product is a cytokine.

Claim 387 (previously presented): The method of claim 320 wherein the product is a cytokine.

Claim 388 (previously presented): The method of claim 269 wherein the label moiety is an antibody specific for the product.

Claim 389 (previously presented): The method of claim 388 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 390 (previously presented): The method of claim 388 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 391 (previously presented): The method of claim 270 wherein the label moiety is an antibody specific for the product.

Claim 392 (previously presented): The method of claim 391 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 393 (previously presented): The method of claim 391 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 394 (previously presented): The method of claim 272 wherein the label moiety is an antibody specific for the product.

Claim 395 (previously presented): The method of claim 394 wherein label moiety is labeled either directly or indirectly with a fluorophore.

Claim 396 (previously presented): The method of claim 394 wherein label moiety is labeled either directly or indirectly with a magnetic particle.

Claim 397 (previously presented): The method of claim 321 wherein the product is a cytokine.

Claim 398 (previously presented): The method of claim 325 wherein the product is a cytokine.

Claim 399 (previously presented): A composition comprising viable cells labeled with a product secreted by said cells, wherein said cells are coupled to a capture moiety, wherein said product secreted by said cells is bound to said capture moiety, and wherein said product is labeled with a label moiety.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 400 (previously presented): The composition of claim 399 wherein said capture moiety is:

- a) coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or
- b) coupled to said cells through an anchoring moiety, and
 - i) the anchoring moiety is a lipid anchor or
 - ii) the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 401 (previously presented): The composition of claim 399 wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin.

Claim 402 (previously presented): The composition of claim 399 wherein said capture moiety is an antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Claim 403 (previously presented): The composition of claim 400 wherein said capture moiety is an antibody or antigen-binding fragment thereof and the label moiety is an antibody or antibody fragment specific for the product.

Claim 404 (previously presented): A composition comprising viable cells, wherein said cells are coupled to a capture moiety, wherein a product secreted by said cells is specifically bound to said capture moiety, and wherein said product is labeled with a label moiety that permits the labeled cells to be positively selected based on the presence of said label moiety.

Claim 405 (previously presented): The composition of claim 404 wherein said capture moiety is:

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

a) coupled to said cells through direct chemical coupling of the capture moiety to components on the cell surface, optionally through a linking moiety or
b) coupled to said cells through an anchoring moiety, and
i) the anchoring moiety is a lipid anchor or
ii) the anchoring moiety is an antibody, or an antigen-binding fragment thereof.

Claim 406 (previously presented): The composition of claim 404 wherein said capture moiety is coupled to said cells through an anchoring moiety, and wherein the anchoring moiety is a lectin.

Claim 407 (previously presented): The composition of claim 404 wherein said capture moiety is an antibody or antigen-binding fragment thereof and the label moiety is an antibody or antibody fragment specific for the product.

Claim 408 (previously presented): The composition of claim 405 wherein said capture moiety is an antibody or antigen-binding fragment thereof and the label moiety is an antibody or antibody fragment specific for the product.

Claim 409 (previously presented): The composition of claim 406 wherein said capture moiety is an antibody or antigen-binding fragment thereof and the label moiety is an antibody or antibody fragment specific for the product.

Claim 410 (previously presented): The composition of claim 404 wherein said capture moiety is an antibody or antigen binding fragment thereof, the antibody or antigen binding fragment thereof is bispecific, and the coupling is through specific binding of the antibody or antigen binding fragment thereof to the cell.

Claim 411 (previously presented): The composition of claim 407 wherein the label moiety is an antibody specific for the product, and the label moiety is labeled either directly or indirectly with a fluorophore, radioactive isotope, chromophore or magnetic particles.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 412 (previously presented): The composition of claim 408 wherein the label moiety is an antibody specific for the product, and the label moiety is labeled either directly or indirectly with a fluorophore, radioactive isotope, chromophore or magnetic particles.

Claim 413 (previously presented): The composition of claim 409 wherein the label moiety is an antibody specific for the product, and the label moiety is labeled either directly or indirectly with a fluorophore, radioactive isotope, chromophore or magnetic particles.

Claim 414 (previously presented): The composition of claim 399 wherein the product is a cytokine.

Claim 415 (previously presented): The composition of claim 400 wherein the product is a cytokine.

Claim 416 (previously presented): The composition of claim 401 wherein the product is a cytokine.

Claim 417 (previously presented): The composition of claim 402 wherein the product is a cytokine.

Claim 418 (previously presented): The composition of claim 403 wherein the product is a cytokine.

Claim 419 (previously presented): The composition of claim 404 wherein the product is a cytokine.

Claim 420 (previously presented): The composition of claim 405 wherein the product is a cytokine.

Claim 421 (previously presented): The composition of claim 406 wherein the product is a cytokine.

Appl. No. 08/416,920
Supplemental Amdt. dated July 6, 2004

PATENT

Claim 422 (previously presented): The composition of claim 407 wherein the product is a cytokine.

Claim 423 (previously presented): The composition of claim 408 wherein the product is a cytokine.

Claim 424 (previously presented): The composition of claim 409 wherein the product is a cytokine.

Claim 425 (previously presented): The composition of claim 410 wherein the product is a cytokine.

Claim 426 (previously presented): The composition of claim 411 wherein the product is a cytokine.

Claim 427 (previously presented): The composition of claim 412 wherein the product is a cytokine.

Claim 428 (previously presented): The composition of claim 413 wherein the product is a cytokine.

Claim 429 (New): The kit of claim 150 wherein comprising a capture moiety; and a label moiety, wherein the capture moiety is an antibody specific for the product and the label moiety comprises colloidal magnetic particles with a typical diameter of about 5 to 200 nm.

Claim 430 (New): The kit of claim 429 wherein the capture moiety is an antibody specific for a cytokine, antibody, hormone, or enzyme.